

### **REMARKS**

Claims 1-29 are pending in the present application. Claims 1-18 stand rejected. Claims 19-29 stand withdrawn from consideration. Applicants respectfully request reconsideration of this application in view of the amendments and remarks herein.

Claim 1 has been amended to recite that the dispersion provides oil and water repellency without causing tip staining. Basis is in the specification at page 1, lines 7-14 and 26-29; page 15, lines 17-30; page 29, line 8 to page 30, line 9; and page 31, line 14 to page 32, line 19. Claim 1 has been further amended to limit the verb to "consisting essentially of".

I. **Restriction under 37 CFR 121**

The claims were divided into three groups as follows:

Group I – Claims 1-18 for aqueous dispersion

Group II – Claims 19-24 for method of using dispersion

Group III – Claims 25-29 for substrate treated with dispersion

Applicants hereby affirm the provisional election to prosecute the claims 1-18 of Group I. Applicants reserve the right to file divisional applications on the claims of Groups II and III should the restriction requirement be made final.

The Examiner has stated that the claims of Groups I and III are related as mutually exclusive species in an intermediate-final product relationship and are distinct because the product of Group I is useful as a coating for other substrates disclosed by Applicants such as wood, masonry, leather and paper. Applicants did not disclose such other substrates. Page 16, line 28 to page 17, line 18, of Applicants' specification disclose only fibrous substrates such as carpets, rugs and the yarns and fibers used to make them. Applicants therefore question the distinctness and respectfully request the Examiner to provide evidence of the use of the claimed dispersion for other substrates.

The Examiner stated that the claims of Groups I and II are related as product and process of use. Applicants respectfully request, should the

elected composition claims of Group I be found allowable, that the withdrawn method claims of Group II be rejoined in accordance with the Guidance on Treatment of Product and Process Claims published in 1184 OG 86. Applicant will amend the method claims to include all the limitations of the composition claims. Thus the method claims of Group II recite a process for using the claimed composition of Group I, and will be commensurate in scope therewith. Applicant submits, should the elected composition claims be found allowable, that the method claims are to be rejoined and examined in accordance with 37 CFR 1.104-1.106.

The Examiner stated that the claims of Groups II and III are related as process of making and product made, and that the groups are distinct because the process of Group II can be used to make a materially different product, such as a carpet coated with tetrafluoroethylene or silicone. However, since the process of Group II requires treatment with a specifically defined dispersion which does not contain tetrafluoroethylene or silicone, Applicants submit this conclusion is in error.

Applicants therefore respectfully request reconsideration of the restriction requirement.

## II. Rejection under 35 USC 103

Claims 1-18 were rejected under 35 USC 103 as unpatentable over US Patent 5,410,073 of Kirchner in combination with US Patent 5,153,046 of Murphy. Applicants respectfully traverse this rejection.

Kirchner is cited as teaching aqueous dispersions of fluorinated urethane polymer, and Murphy is cited as teaching the claimed surfactants. The Examiner maintains that it would be obvious to use the fluorourethane polymer and mixtures of surfactants to provide the benefits disclosed.

Early treatments used to impart water and oil repellency, or dry soil resistance, to carpets were typically cationic in nature. Treatments developed to impart stain resistance to acid dye stains, such as food and beverage stains, are typically anionic in nature. When a carpet, pretreated with an anionic stain resist, is then treated with a cationically dispersed fluorochemical repellent, localized staining could occur, designated as tip staining, due to incompatibility of the treatments. Therefore, the industry generally converted to anionic treatments for repellency and soil

resistance to avoid tip staining and compatibility problems. It is known by one skilled in the art that cationically dispersed fluorochemical products which impart water and oil repellency, or dry soil resistance, to substrates can adversely affect resistance to acid dye stains, which is imparted by anionic treatments to the substrate. Thus, one cannot take the cationic-nonionic surfactant combinations taught in Murphy and add them to compositions of Kirchner and expect to achieve the desired repellency without adversely effecting stain resistance. These surfactant combinations are not compatible with anionic based treatments. Applicant's invention provides compositions which impart excellent water and oil repellency, and dry soil resistance, which are compatible with dispersions containing anionic surfactants, and thus do not adversely affect the resistance to acid dye stains.

The compositions taught by Kirchner and Murphy do not address stain resistance to acid dyes. The primary focus of Kirchner is oil, water and soil repellency, and soil release. These references do not teach how to provide resistance to staining by acid dyes. There is no testing or data for resistance to staining by acid dyes.

The compositions of Murphy are directed to antisoiling and lubricity in fibers prior to incorporation into carpets. The Murphy compositions are 65% to 95% by weight lubricant for application to continuous filament yarns prior to their incorporation into carpet so that the fiber or yarn can endure the high sheer environment of a finishing system. Such lubricants are not applied to carpet. Applicants' claimed dispersions contain no lubricant. There is no reason one skilled in the art would use a surfactant system designed for a lubricant composition in a carpet surface treatment composition intended to impart repellency. Murphy contains no discussion of or data on resistance to staining by acid dyes in either fiber yarn or carpet. Adding the surfactant systems of Murphy to the compositions of Kirchner does not teach or suggest Applicant's claimed invention because there is no suggestion of how to avoid tip staining or gelling.

Thus the combination of these cited references do not address the problem which Applicant's invention solves, and in fact are silent on this

issue. Neither of these references suggest how to achieve oil and water repellency and soil resistance without adversely affecting stain resistance to acid dyes. The combination does not suggest how to avoid tip staining caused by incompatibility of stain resistance chemicals and repellency chemicals.

Applicant's compositions provide excellent water and oil repellency, and dry soil resistance, while not adversely affecting resistance to acid dyes. Prior art compositions interfere with the stain resistance as shown by the occurrence of tip staining. The data in Tables 2-4, 10 and 11 in Applicant's specification demonstrates that the claimed compositions have excellent oil and water repellency (higher number is better) and dry soil resistance. The data in Tables 5-7 and 9 show the claimed compositions avoid the tip-staining problem. The stain resistance is not adversely affected because the claimed compositions do not provide staining sites for acid dyes. Further, Applicant's compositions are compatible with other treatments used by carpet mills. None of the cited prior art references teach or suggest how to achieve this compatibility. They do not teach or suggest how to maximize repellency without adversely affecting stain resistance. Applicant therefore respectfully maintains that the claimed compositions and methods of their use are inventive over the cited references, singly or combined.

### III. Conclusions

In view of the amendments and remarks herein, Applicants respectfully maintain that Claims 1 -18 are patentable over the cited art, and respectfully request that a patent be issued on these claims. Should

any questions arise, the Examiner is invited to contact Applicant's attorney at the number noted below.

Respectfully submitted,



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